



## ecology and environment, inc.

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International Specialists in the Environment

### PRELIMINARY ASSESSMENT

#### EXECUTIVE SUMMARY

TO: Coleen Hart, U.S. EPA  
FROM: David Stoddard, FIT  
DATE: September 30, 1991  
SUBJECT: Gary Municipal Airport Site, Gary, Indiana  
IND067469437/F05-9104-136/FIN0397PA

The Gary Municipal Airport (GMA) site is located at 6131 Industrial Highway in the city of Gary, Lake County, Indiana. The site is a 600-acre active airport serving private aircraft.

On-site features include the airport terminal building, with hangars and runways located in the northern and eastern portions of the site, respectively, a drainage ditch and access road in the western portion of the site, and a wetland area and access road in the southern portion of the site. A number of abandoned military buildings (barracks, missile site, and radar installation) are located on-site. Two monitoring wells are located on-site; however sample data from these wells are not available in FIT files. The site is bordered on the north and east by Industrial Highway and on the west by East Joliet & Eastern (EJ&E) Railroad tracks. The site is bordered on the south by the Grand Calumet River. Industrial areas lie north, east, and west of the site; a residential area lies to the south.

The airport has been owned and operated by the city of Gary since 1950; before 1950 the site was a military post. It is unknown when the military began using the property, what types of activities took place, or what types of wastes, if any, resulted during this time.

recycled paper

The GMA site was the subject of a site inspection by Ecology and Environment, Inc., Field Investigation Team (FIT) on April 8, 1987. According to the site inspection report, oily waste that was observed in the drainage ditch appeared to be originating at Conservation Chemical Company, located directly northwest of the site. The United States Environmental Protection Agency (U.S. EPA) Emergency Response Team (ERT) had conducted a cleanup of Conservation Chemical Company in 1976 and 1977. According to a GMA site representative interviewed by FIT in 1987, the only hazardous waste generated on-site was waste oil, which was stored in drums and then collected for reclamation. No samples were collected during the 1987 site inspection.

On May 20 and 22, 1991, FIT conducted an off-site reconnaissance inspection. FIT observed a large volume of oily waste in the drainage ditch, which was flowing toward the Grand Calumet River. The oil appeared to have been dumped there. Also, an area of blue-stained soil was observed in the southwest portion of the GMA site during a reconnaissance inspection of a nearby site on June 12, 1991.

The geology of the Gary area is characterized by 40 to 175 feet of unconsolidated glaciolacustrine sands and gravels underlain by 300 to 685 feet of Ordovician Dolomite. Approximately 130 persons within a 4-mile radius of the site obtain their drinking water from private wells. No residences, day care centers, or schools are located within 200 feet of the GMA site. Odors from the observed waste, as well as the migration pathway from the ditch to the river, indicate possible releases of hazardous materials to air and surface water.

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## *PA Scoresheets*

**DRAFT**

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CERCLIS IDENTIFICATION NUMBER

STATE  
INSITE NUMBER  
D067469437

## SITE LOCATION

SITE NAME: Legal, common or descriptive name of site

Gary municipal Airport

STREET ADDRESS, ROUTE or SPECIFIC LOCATION IDENTIFIER

6131 Industrial Highway

CITY

GARY

STATE  
INZIP CODE  
46406

TELEPHONE

1219 1949-9722

COORDINATES: LATITUDE and LONGITUDE

41° 37' 10" N. Lat., 087° 25' 00" W. Long.

TOWNSHIP, RANGE, and SECTION

E 1/2 SEC 35, W 1/2 Sec 36 T 35 N R 9 W.

## OWNER/OPERATOR IDENTIFICATION

OWNER

City of Gary

OPERATOR

City of Gary

OWNER ADDRESS

6131 Industrial Highway

OPERATOR ADDRESS

6131 Industrial Highway

CITY

GARY

CITY

GARY

STATE  
INZIP CODE  
46406

TELEPHONE

1219 1949-9722

STATE  
INZIP CODE  
46406

TELEPHONE

1219 1949-9722

## TYPE OF OWNERSHIP

- ☐ PRIVATE  
☐ FEDERAL: Agency name \_\_\_\_\_  
☐ STATE  
☐ COUNTY  
☒ MUNICIPAL  
☐ OTHER: \_\_\_\_\_  
☐ NOT SPECIFIED

## OWNER/OPERATOR NOTIFICATION ON FILE

- ☒ NONE  
☐ CERCLA 103 C UNCONTROLLED WASTE SITE  
DATE: \_\_\_\_\_  
☐ RCRA 3001  
DATE: \_\_\_\_\_

## SITE STATUS

- ☒ ACTIVE  
☐ INACTIVE  
☐ UNKNOWN

## YEARS OF OPERATION

BEGINNING YEAR: prior to 1950  
ENDING YEAR: present  
☐ UNKNOWN

## APPROXIMATE SIZE OF SITE

600 acres

## SITE EVALUATION

AGENCY / ORGANIZATION

U.S. EPA / Ecology &amp; Environment, Inc.

INVESTIGATOR

DAVID STODDARD

CONTACT

COLLEEN HART, U.S. EPA REGION II

ADDRESS

111 W. Jackson, Chicago, IL 60604

TELEPHONE

1312 1886-3009

DATE

September 11, 1991

**Site Description and Operational History:**

The Gary Municipal Airport (GMA) site is a 600 acre active airport facility located at 6131 Industrial Highway in Lake County, Indiana (E 1/2 sec 35, W 1/2 sec 36 T35N R9W). On May 20, 1991, FIT conducted an off-site reconnaissance of the site. Site features include the airport terminal building with hangars and runways in the north and east, a drainage ditch and access road in the west, and a wetland area and access road in the south. There are a number of abandoned military buildings (Barracks, missile sites, and radar installations) located on the site property. The site is bordered on the north and east by Industrial Highway, and on the west by East Joliet; Eastern (EJ;E) Railroad Tracks. The site is bordered on the south by the Grand Calumet River. There was a large amount of oily waste in a drainage ditch flowing toward the Grand Calumet River. Also, an area of blue-stained soil was observed during a reconnaissance inspection of a nearby site on June 12, 1991. Area land use includes industrial to the north, east, and west, and residential to the south (Ref 2). There are two monitoring wells onsite, although no sample data from these is available.

The airport has been owned and operated by the city of Gary since 1950, after the U.S. Military abandoned the property's use as a military post (Ref 5). It is unknown when the U.S. military began using the property, what types of activities took place, or what types of wastes were generated.

**Probable Contaminants of Concern:**

(Previous investigations; analytical data)

Gary Municipal Airport was the object of a site inspection by E;E FIT on April 8, 1987 (Ref 5). According to the Site Inspection Report dated April 20, 1987, oily waste in the ditch appeared to be coming from an abandoned chemical facility northeast of the site (the U.S. EPA emergency response team had conducted a cleanup of at the abandoned chemical facility in 1976 and 1977 (Ref 5)). The waste was collecting in a lagoon onsite (Ref. 6). According to Site Representative Dr. Bill Douglass (interviewed in 1987), the only hazardous waste generated on-site was waste oil which was stored in drums and then hauled away to be recycled (Ref 6). No samples were collected during the 1987 FIT Site Inspection.

The large amount of oily waste observed by FIT on May 22, 1991 appeared to have been dumped into the ditch. (See attached page 2A)

Probable Contaminants of Concern, Continued.

City Municipal Airport  
September 11, 1991  
Page 2A

Oil was also observed on the ground at the end of the Runway.

It is unknown what the chemical content of the oily waste was, or if any other types of waste were present on-site.

DRAFT

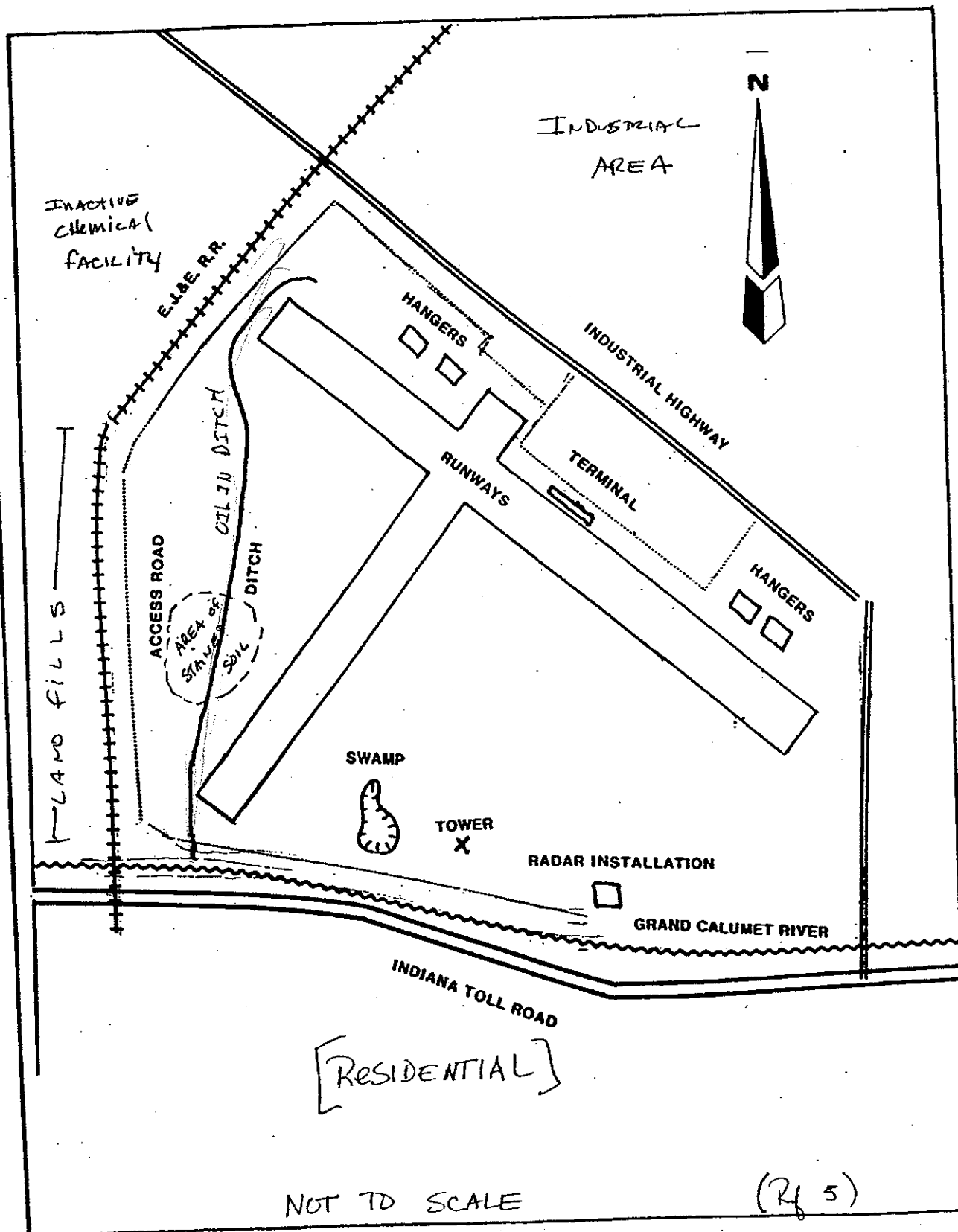
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Date: GARY MUNICIPAL HARBOR

GENERAL INFORMATION (continued)

Site Sketch:

(Show all pertinent features; indicate sources and closest targets)



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## GENERAL INFORMATION (continued)

Date: September 11, 1991  
GMY Municipal Airport  
page 4

## Source Descriptions:

Sources of potential contamination include the ditch where oily waste was observed. The oil that was observed in 1991 appears to have been dumped there. This ditch could pose a threat to surface water since it flows directly to the Grand Calumet River. The oil observed in the ditch in 1987 appeared to be seeping from below the ground surface (Ref 5). This could pose a threat, in addition, to the soil in this area of the ditch. Several areas of stressed vegetation were observed in this area.

Also, when conducting an off-site reconnaissance of an adjacent site in June 1991, FIT observed a 100 yd x 100 yd area of blue-stained soil in the missile site area in the Southwest portion of the site. The chemical characteristics of this soil is unknown, and this area was almost completely non-vegetated.

## Waste Characteristics (WC) Calculations:

(See PA Table 1, page 5)

multiple Sources:

$$\begin{aligned} \text{Stained Soil } 300' \times 300' &= 90000 \text{ ft}^2; \\ \frac{90000}{34000} &\approx 3; \text{ WC} = 3 \end{aligned}$$

Gallons of Oil  
In ditch = unknown

WC =

18



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## PA TABLE 1: WASTE CHARACTERISTICS (WC) SCORES

GARY MUNICIPAL AIRPORT  
Page 5PA Table 1a: WC Scores for Single Source Sites and Formulas  
for Multiple Source Sites

TIER	SOURCE TYPE	SINGLE SOURCE SITES (assigned WC scores)			MULTIPLE SOURCE SITES
		WC = 18	WC = 32	WC = 100	Formula for Assigning Source WQ Values
CONCENTRATION	N/A	$\leq 100$ lbs	$> 100$ to 10,000 lbs	$> 10,000$ lbs	$lbs + 1$
	N/A	$\leq 500,000$ lbs	$> 500,000$ to 50 million lbs	$> 50$ million lbs	$lbs + 5,000$
VOLUME	Landfill	$\leq 6.75$ million $ft^3$ $\leq 250,000$ $yd^3$	$> 6.75$ million $ft^3$ to 675 million $ft^3$ $> 250,000$ to 25 million $yd^3$	$> 675$ million $ft^3$ $> 25$ million $yd^3$	$ft^3 + 67,500$ $yd^3 + 2,500$
	Surface impoundment	$\leq 6,750$ $ft^3$ $\leq 250$ $yd^3$	$> 6,750$ $ft^3$ to 675,000 $ft^3$ $> 250$ to 25,000 $yd^3$	$> 675,000$ $ft^3$ $> 25,000$ $yd^3$	$ft^3 + 67.5$ $yd^3 + 2.5$
	Drums	$\leq 1,000$ drums	$> 1,000$ to 100,000 drums	$> 100,000$ drums	$drums + 10$
	Tanks and non-drum containers	$\leq 50,000$ gallons	$> 50,000$ to 5 million gallons	$> 5$ million gallons	$gallons + 500$
	Contaminated soil	$\leq 6.75$ million $ft^3$ $\leq 250,000$ $yd^3$	$> 6.75$ million $ft^3$ to 675 million $ft^3$ $> 250,000$ to 25 million $yd^3$	$> 675$ million $ft^3$ $> 25$ million $yd^3$	$ft^3 + 67,500$ $yd^3 + 2,500$
	Pile	$\leq 6,750$ $ft^3$ $\leq 250$ $yd^3$	$> 6,750$ $ft^3$ to 675,000 $ft^3$ $> 250$ to 25,000 $yd^3$	$> 675,000$ $ft^3$ $> 25,000$ $yd^3$	$ft^3 + 67.5$ $yd^3 + 2.5$
AREA	Landfill	$\leq 340,000$ $ft^2$ $\leq 7.8$ acres	$> 340,000$ to 34 million $ft^2$ $> 7.8$ to 780 acres	$> 34$ million $ft^2$ $> 780$ acres	$ft^2 + 3,400$ $acres + 0.078$
	Surface impoundment	$\leq 1,300$ $ft^2$ $\leq 0.029$ acres	$> 1,300$ to 130,000 $ft^2$ $> 0.029$ to 2.9 acres	$> 130,000$ $ft^2$ $> 2.9$ acres	$ft^2 + 13$ $acres + 0.00029$
	Contaminated soil	$\leq 3.4$ million $ft^2$ $\leq 78$ acres	$> 3.4$ million to 340 million $ft^2$ $> 78$ to 7,800 acres	$> 340$ million $ft^2$ $> 7,800$ acres	$ft^2 + 34,000$ $acres + 0.78$
	Pile*	$\leq 1,300$ $ft^2$ $\leq 0.029$ acres	$> 1,300$ to 130,000 $ft^2$ $> 0.029$ to 2.9 acres	$> 130,000$ $ft^2$ $> 2.9$ acres	$ft^2 + 13$ $acres + 0.00029$
	Land treatment	$\leq 27,000$ $ft^2$ $\leq 0.62$ acres	$> 27,000$ to 2.7 million $ft^2$ $> 0.62$ to 62 acres	$> 2.7$ million $ft^2$ $> 62$ acres	$ft^2 + 270$ $acres + 0.0062$

1 ton = 2,000 lbs = 1  $yd^3$  = 4 drums = 200 gallons

\* Use area of land surface under pile, not surface area of pile.

PA Table 1b: WC Scores for Multiple Source Sites

WQ Total	WC Score
$> 0$ to 100	18
$> 100$ to 10,000	32
$> 10,000$	100

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GROUND WATER PATHWAY  
GROUND WATER USE DESCRIPTIONGary Municipal Airport  
Page 6

## Describe Ground Water Use Within 4-miles of the Site:

(Provide generalized stratigraphy; information on aquifers, municipal, and or private wells)

Groundwater in the Gary/Hammond area is used primarily for reasons other than drinking. Fewer than 170 people living within a 4-mile radius of the site are served by private-well derived groundwater, and those that are reside beyond a 2-mile radius of the site (Ref 7,8,9).

Stratigraphy: Northern Lake County, Indiana is located on the Calumet lacustrine plain, which is made up of 40-175 feet of glaciolacustrine sand and gravel. The sand and gravel is situated over a layer of Silurian dolomitic limestone (the Wabash formation) which forms the upper aquifer, and 300-685 feet of ordovician dolomitic limestone, sandstone, and shale which forms the lower aquifer. The two aquifers are separated by a confining layer of shale (Ref 10). The upper aquifer is the aquifer of concern, which lies at a depth of 6 feet.

## Show calculations of ground water drinking water populations:

0 - 1/4 mile	0 wells	0 TOTAL
1/4 - 1/2 mile	0 wells	0 TOTAL
1/2 - 1 mile	0 wells	0 TOTAL
1 - 2 mile	0 wells	0 TOTAL
2 - 3 miles	30 wells in Black Oak Section of Gary, (Ref 9) near Cline Ave (30 x 2.96 persons/household) (Ref 11) =	89 people total
3 - 4	<ul style="list-style-type: none"> <li>Griffith → 6 wells (Ref 8), approximately 1/2 of which is within 3-4 miles (3 wells x 2.96 persons/household) (Ref 11) = 9</li> <li>Highland → &lt; 20 wells (Ref 7), app. 1/2 of which is within 3/4 miles (10 x 2.96 persons/household) (Ref 11) = 30 persons, total</li> </ul>	
		* → ≈ 130 persons, total

## GROUND WATER PATHWAY CRITERIA LIST

Site Name: GARY MUNICIPAL AIRPORT  
 Date: September 11, 1991  
 Page 7

This chart provides guidelines to assist you in hypothesizing the presence of a suspected release and identifying primary targets. It is expected that not all of this information will be available during the PA. Also, these criteria are not all-inclusive; list any other criteria you use to hypothesize a suspected release or to identify primary targets. This chart will record your professional judgment in evaluating these factors.

The "Suspected Release" section of the chart guides you through evaluation of some site, source, and pathway conditions to help hypothesize whether a release from the site is likely. If a release is suspected, use the "Primary Targets" section to guide you through evaluation of some conditions that will help identify targets likely to be exposed to hazardous substances. You may use the section of the chart more than once, depending on the number of targets you feel may be considered "primary." In the "Primary Targets" section on this sheet, record the responses for the well that you feel has the highest probability of being exposed to hazardous substances.

Check the boxes to indicate a "yes", "no", or "unknown" answer to each question. If you check the "Suspected Release" box as "yes", make sure that you assign a Likelihood of Release value of 550 for the pathway.

GROUND WATER PATHWAY					
SUSPECTED RELEASE			PRIMARY TARGETS		
Y ●	N ○	UNKNOWN □	Y ●	N ○	UNKNOWN □
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Are sources poorly contained?			Is any drinking-water well nearby?		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the source a type likely to contribute to ground water contamination (e.g., wet lagoon)?			Is any nearby drinking-water well closed?		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is waste quantity particularly large?			Has foul-tasting or foul-smelling water been reported by any nearby drinking-water users?		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is precipitation heavy and infiltration rate high?			Do any nearby wells have a large drawdown or high production rate?		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the site located in an area of karst terrain?			Are drinking-water wells located between the site and other wells that are suspected to be exposed to hazardous substances?		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the subsurface highly permeable or conductive?			Does any circumstantial evidence of ground water or drinking water contamination exist?		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is drinking water drawn from a shallow aquifer?			Does any drinking-water well warrant sampling?		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Are suspected contaminants highly mobile in ground water?			Other criteria? _____		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does any circumstantial evidence of ground water or drinking water contamination exist?			PRIMARY TARGET(S) IDENTIFIED?		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
Other criteria? _____					
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
SUSPECTED RELEASE?					

Summarize the rationale for suspected release (attach an additional page if necessary):

Water on ground and in ditch + high water table (< 6 feet) (ref 10)  
 Make infiltration to groundwater a possibility.

Summarize the rationale for Primary Targets (attach an additional page if necessary):

No primary targets identified

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## GROUND WATER PATHWAY SCORESHEET

Date:

GMEY Municipal Airport  
September 11, 1991, page 8

## Pathway Characteristics

Do you suspect a release (see Ground Water Pathway Criteria List, page 7)?

Yes ☒ No ☐

Is the site located in karst terrain?

Yes ☐ No ☒

Depth to aquifer:

~6 ft

Distance to the nearest drinking-water well:

> 2 miles

## LIKELIHOOD OF RELEASE

A	B
Suspected Release	No Suspected Release
PA 550	PA 340
LR = 550	

References

1. SUSPECTED RELEASE: If you suspect a release to ground water (see page 7), assign a score of 550, and use only column A for this pathway.

2. NO SUSPECTED RELEASE: If you do not suspect a release to ground water, and the site is in karst terrain or the depth to aquifer is 70 feet or less, assign a score of 500; otherwise, assign a score of 340. Use only column B for this pathway.

## TARGETS

3. PRIMARY TARGET POPULATION: Determine the number of people served by drinking water from wells that you suspect have been exposed to hazardous substances from the site (see Ground Water Pathway Criteria List, page 7).  
0 people x 10 =

0	
2	
3	
0	
5	5
T = 10	

4. SECONDARY TARGET POPULATION: Determine the number of people served by drinking water from wells that you do NOT suspect have been exposed to hazardous substances from the site, and assign the total population score from PA Table 2.

Are any wells part of a blended system? Yes ☐ No ☒  
If yes, attach a page to show apportionment calculations.

5. NEAREST WELL: If you have identified any Primary Targets for ground water, assign a score of 50; otherwise, assign the highest Nearest Well score from PA Table 2. If no drinking-water wells exist within 4 miles, assign a score of zero.

6. WELLHEAD PROTECTION AREA (WHPA): Assign a score of 20 if any portion of a designated WHPA is within 1/2 mile of the site; assign 5 if from 1/2 to 4 miles.

7. RESOURCES: A score of 5 is assigned.

7,8,9

7,8,9

## WASTE CHARACTERISTICS

8. A. If you have identified any Primary Targets for ground water, assign the waste characteristics score calculated on page 4, or a score of 32, whichever is GREATER; do not evaluate part B of this factor.

B. If you have NOT identified any Primary Targets for ground water, assign the waste characteristics score calculated on page 4.

18	
18	
WC = 18	

GROUND WATER PATHWAY SCORE:

$$\frac{LR \times T \times WC}{82,500}$$

Subtotal is a maximum of 100

1.2

PA TABLE 2: VALUES FOR SECONDARY GROUND WATER TARGET POPULATIONS

PA Table 2a: Non-Karst Aquifers

Distance from Site	Population	Nearest Well (choose highest)	Population Served by Wells Within Distance Category										Population Value
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	
0 to 1/4 mile	0	20	1	2	5	16	52	163	521	1,633	5,214	16,325	
> 1/4 to 1/2 mile	0	18	1	1	3	10	32	101	323	1,012	3,233	10,121	
> 1/2 to 1 mile	0	9	1	1	2	6	17	52	167	522	1,668	5,224	
> 1 to 2 miles	0	6	1	1	1	3	9	29	94	284	939	2,938	
> 2 to 3 miles	89	3	1	1	1	2	7	21	68	212	678	2,122	1
> 3 to 4 miles	39	2	1	1	1	1	4	13	42	131	417	1,308	1
Nearest Well =		3											Score = 2

PA Table 2b: Karst Aquifers

Distance from Site	Population	Nearest Well (use 20 for karst)	Population Served by Wells Within Distance Category										Population Value
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	
0 to 1/4 mile		20	1	2	5	16	52	163	521	1,633	5,214	16,325	
> 1/4 to 1/2 mile		20	1	1	3	10	32	101	323	1,012	3,233	10,121	
> 1/2 to 1 mile		20	1	1	3	8	26	82	261	816	2,607	8,162	
> 1 to 2 miles		20	1	1	3	8	26	82	261	816	2,607	8,162	
> 2 to 3 miles		20	1	1	3	8	26	82	261	816	2,607	8,162	
> 3 to 4 miles		20	1	1	3	8	26	82	261	816	2,607	8,162	
Nearest Well =													Score =

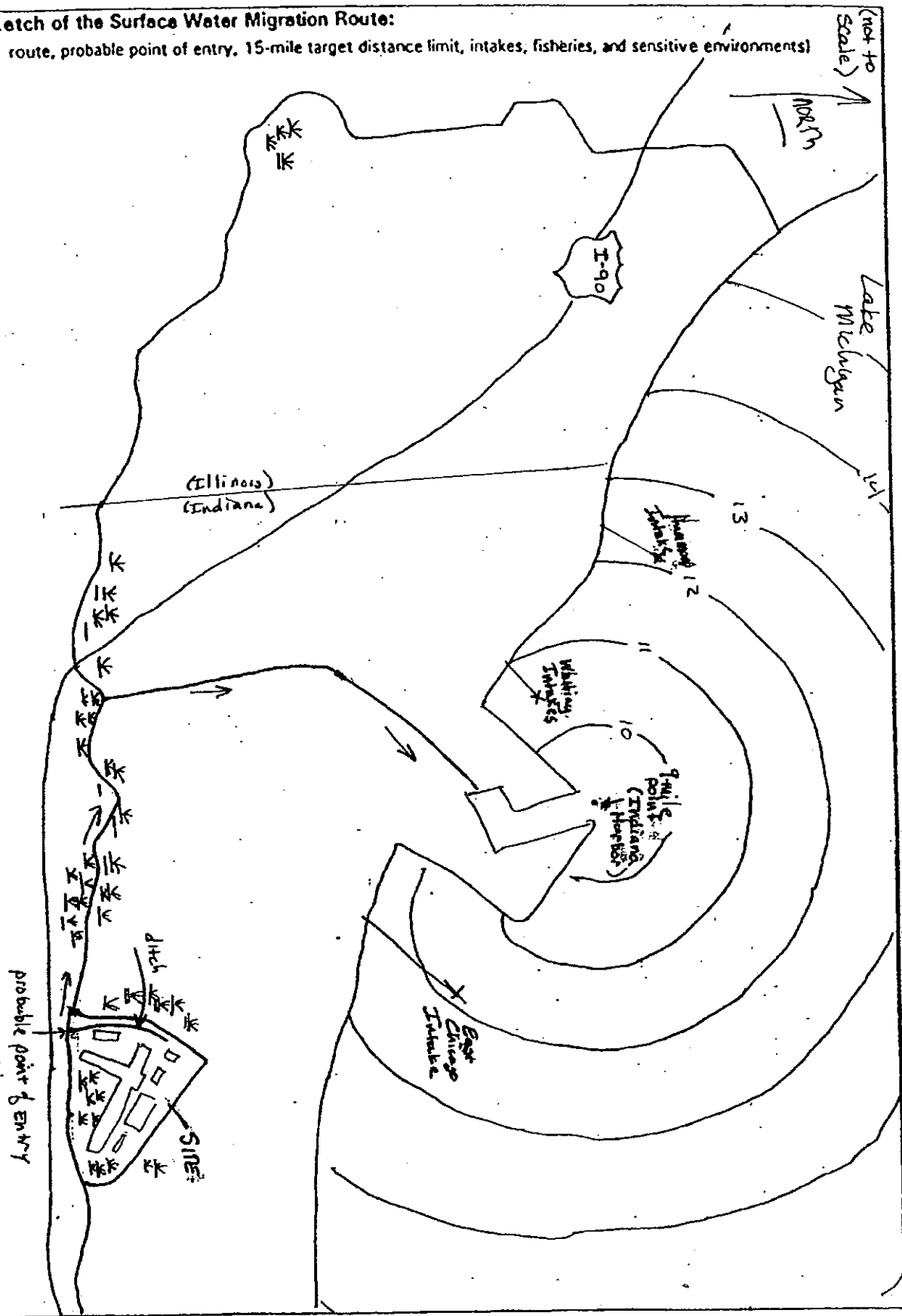
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SURFACE WATER PATHWAY  
MIGRATION ROUTE SKETCH

Gray Municipal Airport  
September 11, 1991  
Page 10

Provide a Sketch of the Surface Water Migration Route:

(include runoff route, probable point of entry, 15-mile target distance limit, intakes, fisheries, and sensitive environments)



This chart provides guidelines to assist you in hypothesizing the presence of a suspected release and identifying primary targets. It is expected that not all of this information will be available during the PA. Also, these criteria are not all-inclusive; for any other criteria you use to hypothesize a suspected release or to identify primary targets. This chart will record your professional judgment in evaluating these factors.

The "Suspected Release" section of the chart guides you through evaluation of some site, source, and pathway conditions to help hypothesize whether a release from the site is likely. If a release is suspected, use the "Primary Targets" section to guide you through evaluation of some conditions that will help identify targets likely to be exposed to hazardous substances. You may use this section of the chart more than once, depending on the number of targets you feel may be considered "primary." In the "Primary Targets" section on this sheet, record the responses for the target that you feel has the highest probability of being exposed to hazardous substances.

Check the boxes to indicate a "yes", "no", or "unknown" answer to each question. If you check the "Suspected Release" box as "yes", make sure that you assign a Likelihood of Release value of 550 for the pathway.

SURFACE WATER PATHWAY			
SUSPECTED RELEASE			PRIMARY TARGETS
Y	N	UNKNOWN	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is surface water nearby?
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Is waste quantity particularly large?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is the drainage area large?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is precipitation heavy or infiltration rate low?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are sources poorly contained or prone to runoff or flooding?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is a runoff route well defined (e.g., ditch or channel leading to surface water)?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is vegetation stressed along the probable runoff path?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are suspected contaminants highly persistent in surface water?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are sediments/water unnaturally discolored?
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Is wildlife unnaturally absent?
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Has deposition of waste into surface water been observed?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is ground water discharge to surface water likely?
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Is there any circumstantial evidence of surface water contamination?
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Other criteria? _____
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>SUSPECTED RELEASE?</b>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is any target nearby? If yes:
			<input type="checkbox"/> Drinking-water intake
			<input checked="" type="checkbox"/> Fishery
			<input checked="" type="checkbox"/> Sensitive environment
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Has an intake, fishery, or recreational area been closed?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is there any circumstantial evidence of surface water contamination at or downstream of a target?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Does any target warrant sampling? If yes:
			<input type="checkbox"/> Drinking-water intake
			<input checked="" type="checkbox"/> Fishery
			<input checked="" type="checkbox"/> Sensitive environment
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Other criteria? _____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<b>PRIMARY INTAKE(S) IDENTIFIED?</b>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>PRIMARY FISHERY IDENTIFIED?</b>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>PRIMARY SENSITIVE ENVIRONMENT(S) IDENTIFIED?</b>

Summarize the rationale for suspected release (attach an additional page if necessary):

Oily waste was observed in a ditch which flows directly to the Grand Calumet River, approximately 1/2 mile south.

Summarize the rationale for Primary Targets (attach an additional page if necessary):

Wetland areas are located on site and along the Grand Calumet River (a fishery) adjacent to the site.

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# SURFACE WATER PATHWAY LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT SCORESHEET

GMY Municipal Airport  
September 11, 1991  
page 12

Pathway Characteristics	
Do you suspect a release (see Surface Water Pathway Criteria List, page 11)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Distance to surface water:	<u>1/2 mile</u>
Flood Frequency:	<u>100</u> yrs
What is the downstream distance to the nearest drinking-water intake? <u>10.5</u> miles	
nearest fishery? <u>Adjacent</u>	nearest sensitive environment? <u>on site</u>

## LIKELIHOOD OF RELEASE

1. **SUSPECTED RELEASE:** If you suspect a release to surface water (see page 11), assign a score of 550, and use only column A for this pathway.
2. **NO SUSPECTED RELEASE:** If you do not suspect a release to surface water, and the distance to surface water is 2,500 feet or less, assign a score of 500; otherwise, assign a score from the table below. Use only column B for this pathway.

Floodplain	Score
Site in annual or 10-yr floodplain	500
Site in 100-yr floodplain	400
Site in 500-yr floodplain	300
Site outside 500-yr floodplain	100

	A Suspected Release	B No Suspected Release	References
1. SUSPECTED RELEASE: If you suspect a release to surface water (see page 11), assign a score of 550, and use only column A for this pathway.	550		
2. NO SUSPECTED RELEASE: If you do not suspect a release to surface water, and the distance to surface water is 2,500 feet or less, assign a score of 500; otherwise, assign a score from the table below. Use only column B for this pathway.		(500, 400, 300 = 100)	
LR =	550	(500, 400, 300 = 100)	

## DRINKING WATER THREAT TARGETS

3. Determine the water body types, flows (if applicable), and number of people served by all drinking-water intakes within the 15-mile target distance limit. If there are no drinking-water intakes within the target distance limit, assign a total Targets score of 5 at the bottom of this page (Resources only) and proceed to page 14.

Intake Name	Water Body Type	Flow	People Served
Hammond	Lake	cfs	294549
Whiting	Lake	cfs	5600
East Chicago	Lake	cfs	39786

4. **PRIMARY TARGET POPULATION:** If you suspect any drinking-water intake listed above has been exposed to hazardous substances from the site (see Surface Water Pathway Criteria List, page 11), list the intake name(s) and calculate the factor score based on the number of people served.

\_\_\_\_\_ people x 10 =

5. **SECONDARY TARGET POPULATION:** Determine the Secondary Target Population score from PA Table 3 based on the populations using drinking-water from intakes that you do NOT suspect have been exposed to hazardous substances from the site.

Are any intakes part of a blended system? Yes ☐ No ☐  
If yes, attach a page to show apportionment calculations.

6. **NEAREST INTAKE:** If you have identified any Primary Targets for the drinking water threat (Factor 4), assign a score of 50; otherwise, assign the Nearest Intake score from PA Table 3. If no drinking-water intake exists within the 15-mile target distance limit, assign a score of zero.

7. **RESOURCES:** A score of 5 is assigned.

0	12, 13, 14
5	12, 13, 14
5	12, 13, 14
5	5
15	

T =



Site Name: Gray Municipal AP

Date: September 11, 1991

Page 13

PA TABLE 3: VALUES FOR SECONDARY SURFACE WATER TARGET POPULATIONS

PA TABLE 3: VALUES FOR SECONDARY CONTINUED														
Surface Water Body Flow Characteristics (see PA Table 4)	Population	Nearest Intake (choose Highest)	Population Served by Intakes Within Flow Category											Population Value
			1 to 50	37 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,001 to 3,000,000	
			1 to 50	37 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,001 to 3,000,000	
<10 cfs	0	20	2	5	16	52	163	521	1,633	5,214	16,325	52,136	163,248	
10 to 100 cfs	0	2	1	1	2	6	16	52	163	521	1,633	5,214	16,325	
>100 to 1,000 cfs	0	1	0	0	1	1	2	5	16	52	163	521	1,633	
>1,000 to 10,000 cfs	0	0	0	0	0	0	1	1	2	5	16	52	163	
>10,000 cfs or Great Lakes	340000	0	0	0	0	0	0	0	1	1	2	5	16	5
3-mile Mixing Zone	0	10	1	3	8	26	82	261	816	2,607	8,162	26,068	81,663	
Score =														5

Nearest Intake = 0

Score = 5

PA TABLE 4: SURFACE WATER TYPE / FLOW CHARACTERISTICS WITH DILUTION WEIGHTS FOR SECONDARY SURFACE WATER SENSITIVE ENVIRONMENTS

Type of Surface Water Body		Dilution Weight
Water Body Type	Flow Characteristics	
minimal stream	flow less than 10 cfs	1
small to moderate stream	flow 10 to 100 cfs	0.1
moderate to large stream	flow greater than 100 to 1,000 cfs	N/A
large stream to river	flow greater than 1,000 to 10,000 cfs	N/A
large river	flow greater than 10,000 cfs	N/A
3-mile mixing zone of quiet flowing streams or rivers	flow 10 cfs or greater	N/A
coastal tidal water (harbors, sounds, bays, etc.), ocean, or Great Lakes	N/A	N/A

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**SURFACE WATER PATHWAY (continued)  
HUMAN FOOD CHAIN THREAT SCORESHEET**

GALT Municipal Airport  
September 11, 1991  
Page 14

**LIKELIHOOD OF RELEASE**

Enter the Surface Water Likelihood of Release score from page 12.

LR =

A Suspected Release	B No Suspected Release	References
2400 550	1500, 400, 300 = 100	

**HUMAN FOOD CHAIN THREAT TARGETS**

8. Determine the water body types and flows (if applicable) for all fisheries within the 15-mile target distance limit. If there are no fisheries within the target distance limit, assign a Targets score of 0 at the bottom of this page and proceed to page 15.

Fishery Name	Water Body Type	Flow
GRAND CALUMET RIVER	RIVER	unknown cfs
		cfs
		cfs
		cfs
		cfs

9. PRIMARY FISHERIES: If you suspect any fishery listed above has been exposed to hazardous substances from the site (see Surface Water Criteria List, page 11), assign a score of 300 and do not evaluate Factor 10. List the Primary Fisheries:

Grand Calumet River

10. SECONDARY FISHERIES: If you have not identified any Primary Fisheries, assign a Secondary Fisheries score from the table below using the LOWEST flow at any fishery within the 15-mile target distance limit.

Lowest Flow	Secondary Fisheries Score
< 10 cfs	210
10 to 100 cfs	30
> 100 cfs, coastal tidal waters, oceans, or Great Lakes	12

T =

300	
0	
300	

15

15

N/A

DRAFT

NOV 06 1990

Date:

SURFACE WATER PATHWAY (continued)  
ENVIRONMENTAL THREAT SCORESHEET

## LIKELIHOOD OF RELEASE

Enter the Surface Water Likelihood of Release score from page 12.

LR =

A

B

Suspected  
ReleaseNo Suspected  
Release

References

1542

1500, 400, 300 = 1000

550

## ENVIRONMENTAL THREAT TARGETS

11. Determine the water body types and flows (if applicable) for all surface water sensitive environments within the 15-mile target distance limit (see PA Tables 4 and 5). If there are no sensitive environments within the 15-mile target distance limit, assign a Targets score of 0 at the bottom of this page, and proceed to page 17.

Environment Name	Water Body Type	Flow
Wetlands Along Grand Calumet River, on-site	Wetlands	cfs
		cfs
		cfs
		cfs
		cfs

12. PRIMARY SENSITIVE ENVIRONMENTS: If you suspect any sensitive environment listed above has been exposed to hazardous substances from the site (see Surface Water Criteria List, page 11), assign a score of 300 and do not evaluate Factor 13. List the Primary Sensitive Environments:

Wetlands Along Grand Calumet River

13. SECONDARY SENSITIVE ENVIRONMENTS:

- A. For Secondary Sensitive Environments on surface water bodies with flows of 100 cfs or less, assign scores as follows, and do not evaluate part B of this factor:

Flow	Dilution Weight (PA Table 4)	Environment Type and Value (PA Tables 5 and 6)	Total
cfs	x	=	
cfs	x	=	
cfs	x	=	
cfs	x	=	
cfs	x	=	

Sum =

- B. If NO Secondary Sensitive Environments are located on surface water bodies with flows of 100 cfs or less, assign a score of 10.

T =

300

2,16

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**NOV 06 1990**

Date:

**SURFACE WATER PATHWAY (concluded) Gary Municipal Airport**  
**WASTE CHARACTERISTICS, THREAT, AND PATHWAY SCORE SUMMARY** *September 11, 1991*  
*Page 17*

**WASTE CHARACTERISTICS**

14. **A.** If you have identified ANY Primary Targets for surface water (pages 12, 14, or 15), assign the waste characteristics score calculated on page 4, or a score of 32, whichever is GREATER; do not evaluate part B of this factor.
- B.** If you have NOT identified any Primary Targets for surface water, assign the waste characteristics score calculated on page 4.

		<b>A</b>	<b>B</b>
		<i>Suspected Release</i>	<i>No Suspected Release</i>
		<small>(100 = 32)</small>	<small>(100 = 32)</small>
		32	32
		<small>(100, 32 = 100)</small>	<small>(100, 32 = 100)</small>
		32	32
<b>WC =</b>		32	32

**SURFACE WATER PATHWAY THREAT SCORES**

Threat	<i>Likelihood of Release (LR) Score (from page 12)</i>	<i>Targets (T) Score</i>	<i>Pathway Waste Characteristics (WC) Score (determined above)</i>	<i>Threat Score LR x T x WC / 82,500</i>
Drinking Water	550	15	32	3.2 <small>(Subject to a maximum of 100)</small>
Human Food Chain	550	300	32	64 <small>(Subject to a maximum of 100)</small>
Environmental	550	300	32	60 <small>(Subject to a maximum of 100)</small>

**SURFACE WATER PATHWAY SCORE**  
**(Drinking Water Threat + Human Food Chain Threat + Environmental Threat)**

<small>(Subject to a maximum of 100)</small>
100

# SOIL EXPOSURE PATHWAY CRITERIA LIST

Site name: Gary Municipal Airport

Date: September 11, 1991

Page 18

This chart provides guidelines to assist you in hypothesizing the presence of a resident population. It is expected that not all of this information will be available during the PA. Also, these criteria are not all-inclusive; list any other criteria you use to hypothesize resident populations. This chart will record your professional judgment in evaluating this factor.

Use the resident population section to guide you through evaluation of some site and source conditions that will help identify targets likely to be exposed to hazardous substances. You may use this section of the chart more than once, depending on the number of nearby people you feel may be considered part of a resident population. Record the responses for the resident population target that you feel has the highest probability of being exposed to hazardous substances.

Check the boxes to indicate a "yes", "no", or "unknown" answer to each question.

SOIL EXPOSURE PATHWAY				
SUSPECTED CONTAMINATION	RESIDENT POPULATION			
	Y •	N •	U •	
Surficial contamination is assumed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Are there residences, schools, or day care facilities on or within 200 feet of areas of suspected contamination?
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Are residences, schools, or day care facilities located on adjacent land previously owned or leased by the site owner/operator?
	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Is there an overland migration route that might spread hazardous substances near residences, schools, or day care facilities?
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Are there any reports of adverse health effects from onsite or adjacent residents or students, exclusive of apparent drinking water or air contamination problems?
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Does any offsite property warrant sampling?
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Other criteria? _____
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RESIDENT POPULATION IDENTIFIED?

Summarize the rationale for resident population (attach an additional page if necessary):

DRAT  
NOV 03 1990

SOIL EXPOSURE PATHWAY SCORESHEET  
Date: September 11, 1991  
GARY Municipal Airport

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Pathway Characteristics	
Do any people live on or within 200 ft of areas of suspected contamination?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Do any people attend school or day care on or within 200 ft of areas of suspected contamination?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Is the facility active? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, estimate the number of workers <u>50</u>	

LIKELIHOOD OF EXPOSURE

1. SUSPECTED CONTAMINATION: Surficial contamination is assumed. A score of 550 is assigned.

LE =

A Suspected Contamination	B No Suspected Contamination
550	

References

RESIDENT POPULATION THREAT TARGETS

2. RESIDENT POPULATION: Determine the number of people occupying residences or attending school or day care on or within 200 feet of areas of suspected contamination (see Soil Exposure Pathway Criteria List, page 18).  
0 people x 10 =
3. RESIDENT INDIVIDUAL: If you have identified any Resident Population (Factor 2), assign a score of 50; otherwise, assign a score of 0.
4. WORKERS: Assign a score from the following table based on the total number of workers at the facility and nearby facilities with suspected contamination:

Number of Workers	Score
0	0
1 to 100	5
101 to 1,000	10
> 1,000	15

5. TERRESTRIAL SENSITIVE ENVIRONMENTS: Assign a value from PA Table 7 for each terrestrial sensitive environment that is located on an area of suspected contamination:

Terrestrial Sensitive Environment Type	Value

Sum =

6. RESOURCES: A score of 5 is assigned.

T =

0	
0	
5	
0	
5	
10	

WASTE CHARACTERISTICS

7. Assign the waste characteristics score calculated on page 4.

WC =

18
----

RESIDENT POPULATION THREAT SCORE:

$$\frac{LE \times T \times WC}{82,500}$$

NEARBY POPULATION THREAT SCORE:  
Assign a score of 2

SOIL EXPOSURE PATHWAY SCORE:  
Resident Population Threat + Nearby Population Threat

1
2
3

DRAFT

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Gary Municipal Airport

PA TABLE 7: SOIL EXPOSURE PATHWAY  
TERRESTRIAL SENSITIVE ENVIRONMENT VALUES

<i>Terrestrial Sensitive Environment</i>	<i>Assigned Value</i>
Terrestrial critical habitat for Federally designated endangered or threatened species	100
National Park	
Designated Federal Wilderness Area	
National Monument	
Terrestrial habitat known to be used by Federally designated or proposed threatened or endangered species	75
National Preserve (terrestrial)	
National or State terrestrial Wildlife Refuge	
Federal land designated for protection of natural ecosystems	
Administratively proposed Federal Wilderness Area	
Terrestrial areas utilized by large or dense aggregations of animals (vertebrate species) for breeding	
Terrestrial habitat used by State designated endangered or threatened species	50
Terrestrial habitat used by species under review for Federally designated endangered or threatened status	
State lands designated for wildlife or game management	25
State designated Natural Areas	
Particular areas, relatively small in size, important to maintenance of unique biotic communities	

# AIR PATHWAY CRITERIA LIST

Date: September 11, 1991 Page 21  
GARY Municipal Airport

This chart provides guidelines to assist you in hypothesizing the presence of a suspected release. It is expected that not all of this information will be available during the PA. Also, these criteria are not all-inclusive; list any other criteria you use to hypothesize a suspected release. This chart will record your professional judgment in evaluating this factor.

The "Suspected Release" section of the chart guides you through evaluation of some conditions to help hypothesize whether a release from the site is likely. For the Air Pathway, if a release is suspected, "Primary Targets" are any residents, workers, students, or sensitive environments within 1/2 mile of the site.

Check the boxes to indicate a "yes", "no", or "unknown" answer to each question. If you check the "Suspected Release" box as "yes", make sure that you assign a Likelihood of Release value of 550 for the pathway.

AIR PATHWAY		
SUSPECTED RELEASE		PRIMARY TARGETS
Y <input type="checkbox"/>	N <input type="checkbox"/>	UNKNOWN <input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have odors been reported?		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Has a release of hazardous substances to the air been directly observed?		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Are there any reports of adverse health effects (e.g., headaches, nausea, dizziness) potentially resulting from migration of hazardous substances through the air?		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is there any circumstantial evidence of an air release?		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Other criteria? _____		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	
SUSPECTED RELEASE?		

If you suspect a release to air, evaluate all populations and sensitive environments within 1/2 mile including those onsite as Primary Targets.

Summarize the rationale for suspected release (attach an additional page if necessary):

Strong, oily odors were reported near the oily waste in the ditch during the 5/20/91 off-site Reconnaissance.



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## AIR PATHWAY SCORESHEET

Gary Municipal Airport

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## Pathway Characteristics

Do you suspect a release (see Air Pathway Criteria List, page 21)? Yes ☒ No ☐  
 Distance to the nearest individual: (onsite) ft

## LIKELIHOOD OF RELEASE

- SUSPECTED RELEASE:** If you suspect a release to air (see page 21), assign a score of 550, and use only column A for this pathway.
- NO SUSPECTED RELEASE:** If you do not suspect a release to air, assign a score of 500, and use only column B for this pathway.

A	B	References
Suspected Release	No Suspected Release	
550		
	500	
LR = 550		

## TARGETS

- PRIMARY TARGET POPULATION:** Determine the number of people subject to exposure from a release of hazardous substances through the air (see Air Pathway Criteria List, page 21). 50 people  $\times 10 =$
- SECONDARY TARGET POPULATION:** Determine the number of people within the 4-mile target distance limit, and assign the total population score from PA Table 8.
- NEAREST INDIVIDUAL:** If you have identified any Primary Targets for the air pathway, assign a score of 50; otherwise, assign the highest Nearest Individual score from PA Table 8.
- PRIMARY SENSITIVE ENVIRONMENTS:** Sum the sensitive environment values (PA Table 5) and wetland acreage values (PA Table 9) for environments subject to exposure from air hazardous substances (see Air Pathway Criteria List, page 21).

Sensitive Environment Type	Value
Wetlands	250

500		5
15		1,2,3,4
50		
250		16
0		
5	5	
T = 815		

## WASTE CHARACTERISTICS

- A.** If you have identified any Primary Targets for the air pathway, assign the waste characteristics score calculated on page 4, or a score of 32, whichever is GREATER; do not evaluate part B of this factor.
- B.** If you have NOT identified any Primary Targets for the air pathway, assign the waste characteristics score calculated on page 4.

32	
32	
WC = 32	

AIR PATHWAY SCORE:

$$\frac{LR \times T \times WC}{82,500}$$

[Subject to a maximum of 100]

100

Site Name: Gary Municipal Airport  
 Date: September 11, 1991  
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PA TABLE 8: VALUES FOR SECONDARY AIR TARGET POPULATIONS

Distance from Site	Population	Nearest Individual (choose highest)	Population Within Distance Category												Population Value
			1 to 10	11 to 20	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,001 to 3,000,000	
Onsite	50	20	1	2	8	16	52	163	521	1,633	5,214	16,325	52,136	163,246	5
> 0 to 1/4 mile	0	20	1	1	1	4	13	41	130	408	1,303	4,081	13,034	40,811	0
> 1/4 to 1/2 mile	30	2	0	0	1	1	3	9	28	88	282	882	2,815	8,815	0
> 1/2 to 1 mile	330	1	0	0	0	1	1	3	8	28	83	261	834	2,612	1
> 1 to 2 miles	6408	0	0	0	0	0	1	1	3	8	27	83	266	833	3
> 2 to 3 miles	15195	0	0	0	0	0	1	1	1	4	12	38	120	376	4
> 3 to 4 miles	23273	0	0	0	0	0	0	1	1	2	7	23	73	229	2
Nearest Individual =		20													Score = 15

PA TABLE 9: AIR PATHWAY VALUES FOR WETLAND AREA

Wetland Area	Assigned Value
Less than 1 acre	0
1 to 50 acres	25
Greater than 50 to 100 acres	75
Greater than 100 to 150 acres	125
Greater than 150 to 200 acres	175
Greater than 200 to 300 acres	250
Greater than 300 to 400 acres	350
Greater than 400 to 500 acres	450
Greater than 500 acres	500

PA TABLE 10: DISTANCE WEIGHTS AND CALCULATIONS FOR AIR PATHWAY SECONDARY SENSITIVE ENVIRONMENTS

Distance	Distance Weight	Sensitive Environment Type and Value (from PA Table 8 or 9)	Product
Onsite	0.10	x	
		x	
		x	
0-1/4 mi	0.038	x	
		x	
1/4-1/2 mi	0.0054	x	
		x	
		x	
Total Environments Score =			

# SITE SCORE CALCULATION

GARY MUNICIPIAL AIRPORT  
September 11, 1991 Page 24

	S	S <sup>2</sup>
GROUND WATER PATHWAY SCORE (S <sub>gw</sub> ):	1	1
SURFACE WATER PATHWAY SCORE (S <sub>sw</sub> ):	100	10000
SOIL EXPOSURE PATHWAY SCORE (S <sub>so</sub> ):	3	9
AIR PATHWAY SCORE (S <sub>a</sub> ):	100	10000
SITE SCORE:	$\sqrt{\frac{S_{gw}^2 + S_{sw}^2 + S_{so}^2 + S_a^2}{4}} = 71$	

## RECOMMENDATION

FIT RECOMMENDS THIS SITE BEGIVEN A medium priority for inspection because of the danger to surface and groundwater.

## SUMMARY

	YES	NO
1. Is there a high possibility of a threat to nearby drinking water wells by migration of hazardous substances in ground water?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
A. If yes, identify the wells recommended for sampling during the SI.		
B. If yes, how many people are served by these threatened wells? _____		
2. Are any of the following suspected to have been exposed to hazardous substances through surface water migration from the site?		
A. Drinking water intake	<input type="checkbox"/>	<input checked="" type="checkbox"/>
B. Fishery	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C. Sensitive environment: wetland, critical habitat, others	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D. If yes, identify the targets recommended for sampling during the SI.		
Wetlands on site, wetlands adjacent to site, Grand Calumet River water & Sediments.		
3. Do people reside or attend school or day care on or within 200 ft of any area of suspected contamination?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Are there public health concerns at this site that are not addressed by PA scoring considerations? If yes, explain:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Since Area of Blue Stained Soils has not been characterized chemically, its characteristics cannot be used for scoring.		

REFERENCE DOCUMENTATION SHEET

Ref. #	DESCRIPTION OF REFERENCE
1	USGS, 1968, photorevised 1980, Gary Indiana Quadrangle, 7.5 minute Series : 1:24000.
2	USGS, 1968, photorevised 1986, Highland, Indiana Quadrangle, 7.5 minute Series : 1:24000.
3	USGS, 1968, photorevised 1986, Whiting, Indiana Quadrangle, 7.5 minute Series. 1:24000.
4	USGS, 1968, photorevised 1980, Calumet city, Indiana Quadrangle, 7.5 minute Series: 1:24000

REFERENCE DOCUMENTATION SHEET

Ref. #	DESCRIPTION OF REFERENCE
5	U.S. EPA, April 20, 1987, Site Inspection Report for Gary Municipal Airport Site ID = IND067469437, by Thomas Kouris of E&E.
6	Douglass, Bill, April 8, 1987, Conversation with Thomas Kouris of E&E re: site history and Waste Activities
7	Williams, Sara, June 25, 1991, Griffith Water Department, phone conversation, with Chris Zein of E&E.
8	Fistrovich, Dorothy, June 27, 1991, Highland Water Co., phone conversation, with Chris Zein of Ecology & Environment.

REFERENCE DOCUMENTATION SHEET

Ref. #	DESCRIPTION OF REFERENCE
9	<p>Gary-Hobart Water CO., Water Distribution Map, Areas Served by Intakes.</p>
10	<p>U.S. Department of the Interior Geological Survey of Lake County, 1953, Bulletin 31, plate 3.</p>
11	<p>U.S. Department of Commerce Bureau of the Census, 1980, Characteristics of the Population; General Population Characteristics, Indiana.</p>
12	<p>Bona Ventura, Gary, June 24, 1991, Hammond Water Works, phone conversation; with Chris Zein re: distribution from Hammond Intakes.</p>

# REFERENCE DOCUMENTATION SHEET

Ref. #	DESCRIPTION OF REFERENCE
13	Blahunka, Steve, 1991, Whiting Filtration Plant, phone conversation with Mary Tierney of E&E.
14	Hollod, Bill, June 25, 1991, South Chicago Filtration plant, phone conversation, with Chris Zein of Ecology & Environment.
15	Jaguet, Ruth Ann, April 2, 1985, E&E, phone conversation with Jerome Fifer, City Engineer, Gary Board & works re: Surface water use in Gary area.
16	U.S. Department of the Interior Fish & Wildlife Service, 1981, National Wetland Inventory Maps, Highland, Indiana, 1:24000.

FIELD PHOTOGRAPHY LOG SHEET

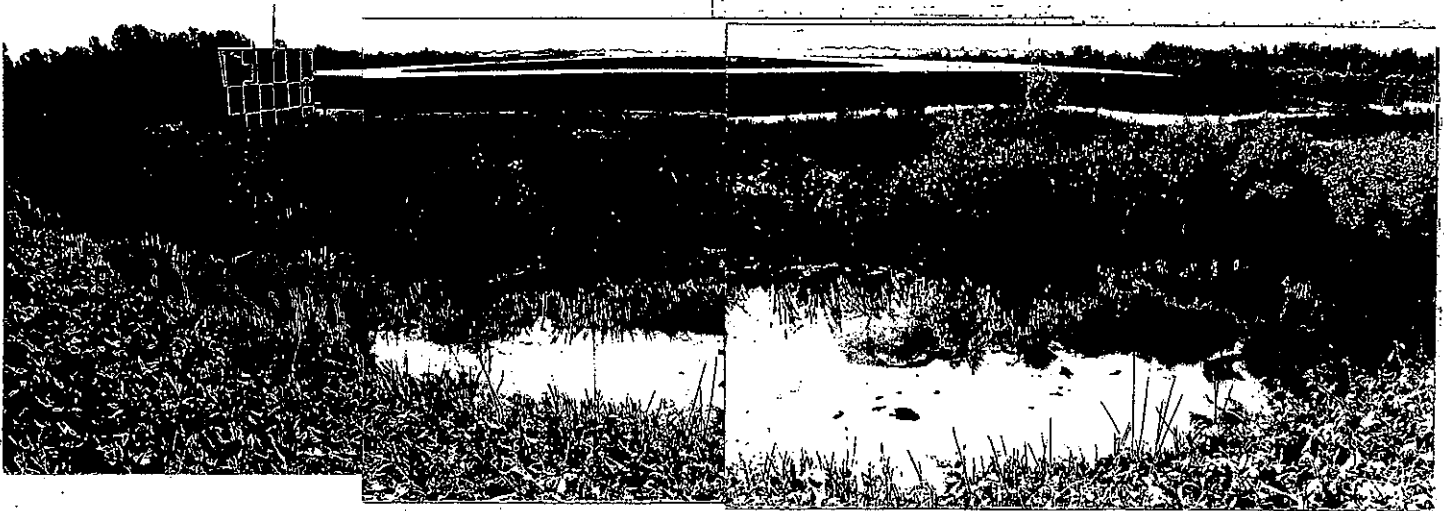
SITE NAME: Gay Municipal Airport

PAGE 1 OF 4

U.S. EPA ID: IND067469437

TDD: FS-9104-136

PAN: FIN 0397PA



DATE: > 5/21/91 TIME: > 1034 DIRECTION OF PHOTOGRAPH: > SE-N PHOTOGRAPHED BY: > S. Connell

WEATHER CONDITIONS: > Clear, Sunny SAMPLE ID (if applicable): > N/A

DESCRIPTION: > Panorama of site showing drainage ditch, note oily sheen at surface and stressed vegetation along bank.



FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Gary Municipal Airport

PAGE 2 OF 4

U.S. EPA ID: IND 067469437 TDD: F05-9104-136

PAN: FIN 0397PA

DATE: 5/21/91

TIME: 1042

DIRECTION OF  
PHOTOGRAPH:

NE

WEATHER  
CONDITIONS:

Clear/sunny

PHOTOGRAPHED BY:

S. Connet

SAMPLE ID  
(if applicable):

N/A

DESCRIPTION: NORTHERN PART OF Ditch. NOTE OIL PATCHES NEAR  
BANK PLUS SMELLED VEGETATION



DATE: 5/21/91

TIME: 1044

DIRECTION OF  
PHOTOGRAPH:

E

WEATHER  
CONDITIONS:

Clear, sunny

PHOTOGRAPHED BY:

S. Connet

SAMPLE ID  
(if applicable):

N/A

DESCRIPTION: NORTHERN PART OF Drainage Ditch. NOTE OIL SLICK  
HOSE WHICH APPEARS TO HAVE BEEN DISPOSED OF IN THE DRAINAGE  
DITCH. ALSO NOTE SMELLED VEGETATION



FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Gary Municipal Airport

PAGE 3 OF 4

U.S. EPA ID: IND 067469437 TDD: FOS-9104-136

PAN: FIN0397PA

DATE: 5/21/91

TIME: 1045

DIRECTION OF  
PHOTOGRAPH:

E

WEATHER  
CONDITIONS:

Clear, Sunny

PHOTOGRAPHED BY:

S. Connet

SAMPLE ID  
(if applicable):

N/A

DESCRIPTION: one of two monitoring wells, to the north between  
the ditch and the Airport.



DATE: 5/21/91

TIME: 1057

DIRECTION OF  
PHOTOGRAPH:

S.

WEATHER  
CONDITIONS:

Clear, Sunny

PHOTOGRAPHED BY:

S. Connet.

SAMPLE ID  
(if applicable):

N/A

DESCRIPTION: The second of two monitoring wells, located south of  
the other and east of the Drainage Ditch



FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Gary Municipal Airport

PAGE 4 OF 4

U.S. EPA ID: Ind 067469437 TDD: 805-9104-136

PAN: FINO3474

DATE: 5/20/91

TIME: 1315

DIRECTION OF  
PHOTOGRAPH:

E

WEATHER  
CONDITIONS:

Clem, Sunny

PHOTOGRAPHED BY:

S. Connet

SAMPLE ID  
(if applicable):

N/A

DESCRIPTION: STRUCTURE LOCATED AT ABANDONED MISSILE SITE.



DATE: 5/20/91

TIME: 1315

DIRECTION OF  
PHOTOGRAPH:

S

WEATHER

CONDITIONS: Clem, Sunny

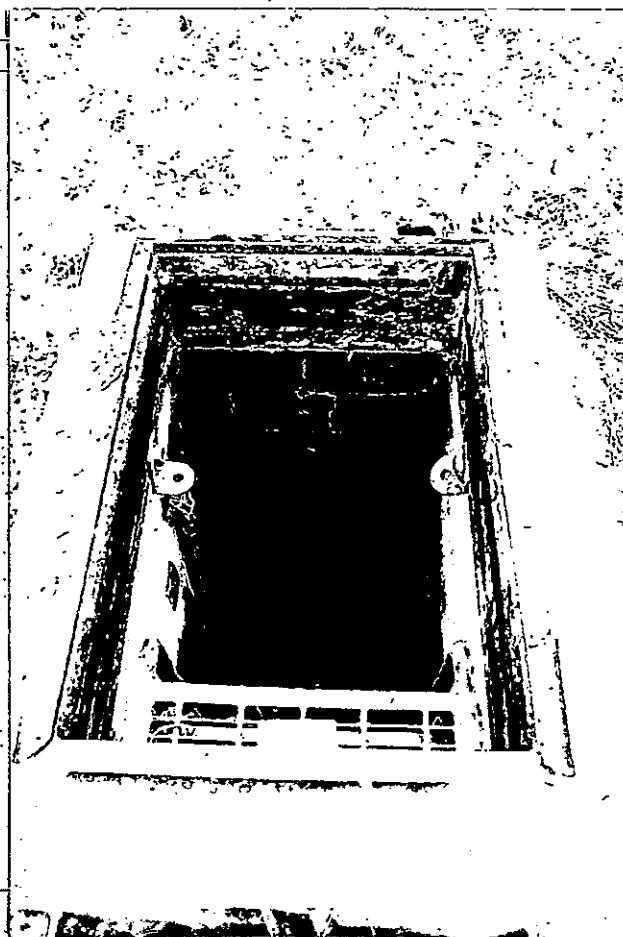
PHOTOGRAPHED BY: S. Connet

SAMPLE ID  
(if applicable): N/A

DESCRIPTION: FLOODED

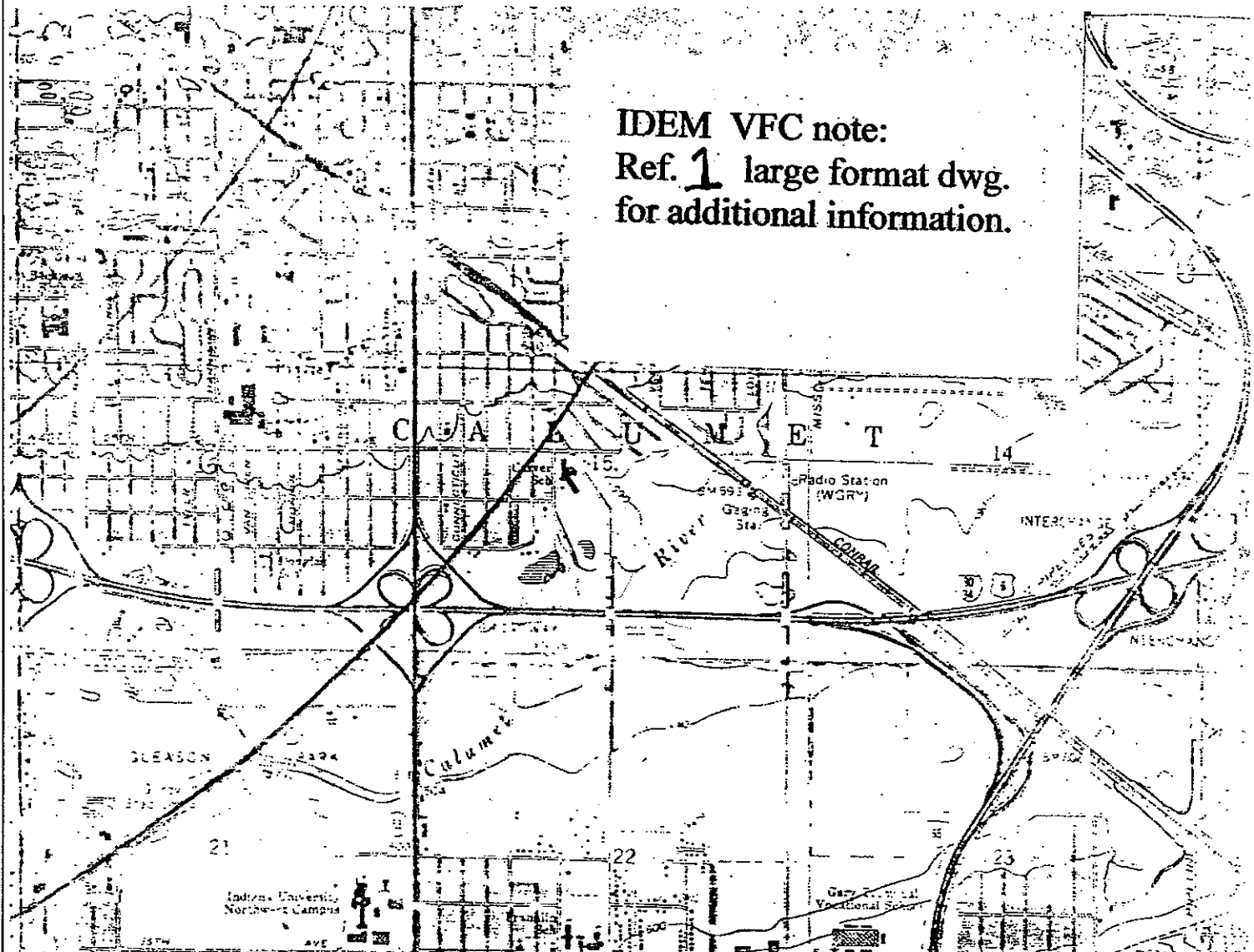
BUNKER AT ABANDONED


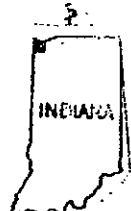
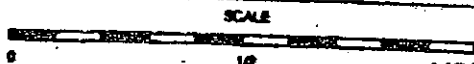
MISSILE SITE.



SI011(2/25/89)

IDEM VFC note:  
Ref. 1 large format dwg.  
for additional information.



 <b>ecology and environment inc.</b> 111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604 <small>International Specialists in Site Remediation</small>		SITE NAME: <b>GARY MUNICIPAL AIRPORT</b> U.S. EPA ID#: <b>IND087489437</b>	
USGS TOPOGRAPHIC MAPS			
NAME: _____ DATE: _____ REVISED: _____	NAME: <b>WHITING</b> DATE: <b>1988</b> REVISED: <b>1988</b>	NAME: _____ DATE: _____ REVISED: _____	 INDIANA QUADRANGLE LOCATION
NAME: <b>CALUMET CITY</b> DATE: <b>1988</b> REVISED: <b>1980</b>	NAME: <b>HIGHLAND</b> DATE: <b>1988</b> REVISED: <b>1988</b>	NAME: <b>GARY</b> DATE: <b>1988</b> REVISED: <b>1980</b>	
SCALE 			
CONTOUR INTERVAL <b>5</b> FT.			